HRSD

Cleaning wastewater every day for a better Bay.

May 23, 2016

Karen D. Johnson, Chief
Drinking Water/Ground Water Protection Branch (3WP22)
US EPA Region 3
1650 Arch Street
Philadelphia, PA 19103

Re: HRSD Sustainable Water Recycling Initiative

Dear Ms. Johnson:

As you are aware, HRSD is pursuing an initiative to address a number of water related environmental issues in eastern Virginia including groundwater replenishment. The initiative would add advanced water treatment to several existing HRSD wastewater treatment facilities to produce water that is protective of human health and is fully compatible with the aquifer. This clean water would be injected into the Potomac aquifer at or near our existing treatment plants through a network of injection wells. Barring any unexpected and insurmountable challenges, HRSD proposes to be pumping over 100 million gallons of clean water into the Potomac aquifer on a daily basis by the year 2030. For a number of reasons, not the least of which is that the groundwater supply is being rapidly depleted, this initiative is being pursued on an accelerated schedule.

We are currently starting up two independent advanced water treatment pilot systems with the goal of selecting a treatment approach that will be implemented in a demonstration-scale facility sized to process approximately one million gallons per day. The demonstration project will include a test injection well combined with a monitoring well network to gather water level and water chemistry data for the full scale project. We anticipate construction of the demonstration project to begin in 2017 with it being fully operational in early 2018. Construction of the full-scale project is scheduled to begin in 2020, bringing facilities on-line throughout the planned 10-year implementation period.

In a planning meeting on Friday, May 13, 2016, we discussed the demonstration project and the entire initiative with Mark Nelson of your staff via conference call. During that discussion it appeared that the test injection well,that would be included with the demonstration project, could potentially be "authorized by rule" while the 25 to 30 wells that would support the full-scale project would require full permitting with appropriate public notice. That seems to be a sound approach from our perspective.

If you are in agreement with this approach, we will submit the required inventory information for the demonstration project test injection well within the next 90 days. Data gathered from the demonstration project injection and monitoring wells will be will be used to inform the permitting of the full-scale project wells. These data should be available to begin the

permitting process in late 2018 with the goal of receiving permits by late 2019 or early 2020. We welcome your guidance on this proposed schedule.

We will keep Mark informed of our progress throughout this initiative. A significant sampling and analysis plan has been developed for our advanced water treatment pilot systems to ensure we can produce water that is protective of human health while being compatible with the geochemistry, geology and native groundwater quality of the aquifer. Our initial analysis, based on existing groundwater data, indicates that total dissolved solids, sulfate, and chloride concentrations in the aquifer may already exceed established drinking water secondary maximum contaminant levels. Again, we look forward to working with your staff to develop appropriate injectate water quality standards to ensure we do no damage to the aquifer and protect human health while providing needed recharge for the Potomac aquifer.

We are working closely with the Virginia Department of Environmental Quality as well as the Virginia Department of Health, Office of Drinking Water in developing the pilot treatment processes and associated sampling and analysis plan. With as many as two hundred thousand private wells in the Potomac aquifer, protection and preservation of this critical public health resource is our primary goal. We are confident we can meet that goal while providing a needed new source of recharge to this seriously depleted aquifer.

I would like to express my appreciation for the time Mark has already provided us and his cooperative approach to this project. I look forward to working with Mark and your team to bring this important initiative to fruition.

Sincerely,

Ted Henifin, P.E.
General Manager

David Paylor, Director Virginia DEQ
Scott Kudlas, Director, DEQ Office of Water Supply
Mark Nelson, EPA Region 3